§ 56.30–40 Flexible pipe couplings of the compression or slip-on type.

(a) Flexible pipe couplings of the compression or slip-on type must not be used as expansion joints. To ensure that the maximum axial displacement (approximately ⅜″ maximum) of each coupling is not exceeded, positive restraints must be included in each installation.

(b) Positive means must also be provided to prevent the coupling from ''creeping'' on the pipe and uncovering the joint. Bite type devices do not provide positive protection against creeping and are not generally accepted for this purpose unless other means are also incorporated. Machined grooves or centering pins are considered positive means, and other positive means will be considered.

(c) Couplings which employ a solid sleeve with welded attachments on both pipes will require the removal of one set of attachments before dismantling. Rewelding of the attachments may require gas freeing of the line.

(d) The installation shall be such as to preclude appreciable difference in the vibration magnitudes of the pipes joined by the couplings. The couplings shall not be used as a vibration damper. The vibration magnitude and frequency should not exceed that recommended by the coupling manufacturer.

(e) Flexible couplings made in accordance with the applicable standards listed in Table 56.60–1(b) of this part and of materials complying with subpart 56.60 of this part may be used within the material, size, pressure, and temperature limitations of those standards and within any further limitations specified in this subchapter. Flexible couplings fabricated by welding must also comply with part 57 of this chapter.

(f) Flexible couplings must not be used in cargo holds or in any other space where leakage, undetected flooding, or impingement of liquid on vital equipment may disable the ship, or in tanks where the liquid conveyed in the piping system is not compatible with the liquid in the tank. Where flexible couplings are not allowed by this subpart, joints may be threaded, flanged and bolted, or welded.

(g) Damaged or deteriorated gaskets shall not be reinstalled.

(h) Each coupling shall be tested in accordance with § 56.97–5.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGD 77–140, 54 FR 40606, Oct. 2, 1989]

Subpart 56.35—Expansion, Flexibility and Supports

§ 56.35–1 Pipe stress calculations (replaces 119.7).

(a) A summary of the results of pipe stress calculations for the main and auxiliary steam piping where the design temperatures exceed 800 °F shall be submitted for approval. Calculations shall be made in accordance with one of the recognized methods of stress analysis acceptable to the Marine Safety Center to determine the magnitude and direction of the forces and movements at all terminal connections, anchor and junction points, as well as the resultant bending stress, longitudinal pressure stress, torsional stress, and combined expansion stress at all such points. The location of the maximum combined stress shall be indicated in each run of pipe between anchor points.

(b) The Marine Safety Center (MSC) will give special consideration to the use of the full tabulated value of ''S'' in computing S_h and S_c where all material used in the system is subjected to further nondestructive testing specified by the MSC, and where the calculations prescribed in 119.6.4 and 102.3.2 of ASME B31.1 (incorporated by reference; see 46 CFR 56.01–2) and 46 CFR 56.07–10 are performed. The procedures for nondestructive testing and the method of stress analysis must be approved by the MSC before the submission of computations and drawings for approval.

[CGD 77–140, 54 FR 40607, Oct. 2, 1989, as amended by USCG–2003–16630, 73 FR 65178, Oct. 31, 2008]

§ 56.35–10 Nonmetallic expansion joints (replaces 119.5.1).

(a) Nonmetallic expansion joints certified in accordance with subpart 50.25 of this subchapter are acceptable for use in piping systems.